

Chemical Contamination in Tohoku, with Lizzie Grossman and Winnie Bird

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The Tohoku earthquake and tsunami of 11 March 2011 devastated entire swaths of the Japanese coastline and killed thousands of people. Much of the attention following the disaster has focused on radiation exposures from the damaged Fukushima Daiichi nuclear power plant. Now public health officials are beginning to assess another potential source of disaster-related exposures: hazardous chemicals that may have been released when major industrial centers along Japan's east coast were damaged or destroyed. In this podcast, journalists Lizzie Grossman and Winnie Bird talk with host Ashley Ahearn about their *EHP* feature story on the potential chemical contamination following the Tohoku disaster.

AHEARN: It's *The Researcher's Perspective*. I'm Ashley Ahearn.

The Tohoku earthquake and tsunami of March 11, 2011, devastated entire swaths of coastline and killed thousands of people. Much of the attention following the disaster has focused on radiation exposures resulting from the damaged Fukushima Daiichi nuclear power plant. But another realm of exposures related to the disaster involves hazardous chemicals that may have been released when major industrial centers along Japan's east coast were damaged.

Joining me now via Skype are journalists Lizzie Grossman and Winnie Bird. They coauthored a feature story in *EHP* about potential chemical contamination resulting from the Tohoku disaster.ⁱ

Lizzie, Winnie, thanks for joining me.

BIRD: Thanks so much for having us on.

AHEARN: Winnie, let's start with you. You're based in Japan. Tell me what you saw and what was going through your head.

BIRD: Well, I started towards the south of where the tsunami had major impacts in the industrial port area in Kashima, which actually wasn't as heavily impacted. Then we went along the coastline further north to Ishinomaki, which was the industrial and manufacturing port city about an hour and a half from Sendai, and there the damage was just stunning. I mean, it was—I'd never experienced anything like it. The neighborhoods along the coast were just flattened, and next to those neighborhoods there were a lot of factories, not so much flattened because the building structures were a little bit stronger, I think, but, you know, sometimes just hollowed-out skeletons of buildings that once held paper manufacturing equipment or fertilizer companies where all the bags of fertilizer were just scattered all across the parking lot outside, broken open and leaking their contents.

The smell was really intense; the dust . . . It felt very unhealthy to be driving around there, and we were able to drive around freely in all the industrial areas. There weren't many danger signs or roped-off areas at that point. There were a lot of workers out cleaning up out there, many of them not wearing masks, gloves—or just wearing a flimsy little mask, cotton gloves. I felt like maybe there wasn't a real awareness yet of what some of the risks were of handling that material.

AHEARN: Now Lizzie, tell me a little bit about the process. How did you guys choose an angle? This is such a huge story.

GROSSMAN: Well, I have been writing a lot about environmental health issues related to chemical exposures, and when I started hearing the reports of this huge devastation that included industrial facilities, without even taking to account the hazards of the nuclear reactor damage, all of a sudden it occurred to me: Oh my gosh, there are oil refineries. There are high-tech facilities. There are petrochemical plants. You're seeing these pictures. What are the potential effects of these chemicals once they're in the

environment after all of this damage? And you have to also include all of those damaged vehicles, all of those houses and things being set on fire. So it just seemed to me really obvious questions to ask.

AHEARN: So, give me a rundown of the environmental health impacts you found that you feel were most important to discuss in here.

GROSSMAN: Well, I think answering that, I do have to preface it by saying that one of the things we both found—Winnie on the ground and in Japan, and in the research I did at a distance trying to talk to government agencies and to any of the companies with facilities in the affected area—is that a real thorough assessment of what is in the soil, what is in all of that mud and sludge, and what is in all of that debris—that actually hasn't been done yet.

So what we were able to find was kind of an inventory of what is potentially out there, and the things that seem of most obvious concern are related to fossil fuels. There were oil refineries that were on fire, so there would be chemicals like benzene, diesel fuel, different kinds of petrochemicals. And there are also a lot of petrochemical processing plants. There are a lot of high-tech facilities. There will be solvents. Those would be the things that would be of most potential concern over the long haul.

AHEARN: And do you feel the environmental health impacts are getting adequate attention in the media?

GROSSMAN: Well, I think quite obviously most of that attention has been eclipsed by reporting on the nuclear disaster, which makes obvious sense, and I think it would be really helpful if there was more attention paid to the overall health effects. But I mean, I think it's quite obvious that the first concerns are for basic safety and recovery efforts, and, so, that this kind of environmental consideration would necessarily follow. But it seems to me, based on the extent of the damage and potential hazards that it should get even more attention.

AHEARN: Lizzie, what are your hopes for media coverage going forward? What kinds of questions remain for you at this point?

GROSSMAN: Well, I think primary is just actual ongoing coverage, because I think as we've all seen, this event has very much already tended to drop off of daily coverage, and I think given the extent of this disaster that just simply ongoing coverage that will follow up and find out what's being done to make sure soil and water are safe as people really get to substantive cleanup and begin to be able to move back into these places. So I think it will be really important to have some attention ongoing in all of those areas.

AHEARN: Winnie, what kinds of questions remain for you, being on the ground in Japan at this point?

BIRD: Well, there are so many unanswered questions. For example: What are the long-term health effects going to be from this disaster? Were there any significant spills of toxic chemicals from damaged factories? Those questions are all basically still unanswered, and you know, the government is just now trying to get some health screenings started in the disaster area, but the environmental testing in Tohoku has just begun in June. So really, we're at the beginning of this story, and I think a lot of the most interesting information in terms of environmental health is going to be coming out in the next several months and probably even several years.

AHEARN: Winnie, Lizzie, thanks so much for joining me.

GROSSMAN: Well, thank you.

BIRD: Thank you so much, Ashley.

AHEARN: Winnie Bird is a freelance writer based in Nagano, Japan. Lizzie Grossman is a writer based in Portland, Oregon.

And that's *The Researcher's Perspective*. I'm Ashley Ahearn. Thanks for downloading!

Reference

ⁱ Bird WA, Grossman E. Chemical aftermath: contamination and cleanup following the Tohoku earthquake and tsunami. 119(7):A290–A301 (2011); doi:<http://ehponline.org/article/info:doi/10.1289/ehp.119-a290>.

Ashley Ahearn, host of *The Researcher's Perspective*, has been a producer and reporter for National Public Radio and an Annenberg Fellow at the University of Southern California specializing in science journalism.